

How to Multiply Indigenous Microorganisms (IMO 1)

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Indigenous microorganisms (IMO) are harvested and produced in various ways for natural farming. Out of five types of NF IMOs, IMO 1 refers to the group of indigenous microorganisms that are produced from microbes collected from forest settings (IMO 1 method 1), from around the stubble of harvested rice (IMO 1 method 2) and directly from forest leaves (IMO 1 method 3).

To collect IMOs from the forest, fill a wooden box (or split bamboo internode) up to 7 cm long with steamed rice. Do not compact the rice, as you need to accommodate both anaerobic and aerobic microorganisms. Cover the box with porous paper (to allow air to move in and out) tied snugly with string or a rubber band. Place the covered container into a shallow hole located in the soil of an area where forest leaves are falling and decomposing with the presence of fungus. The weight of the leaves accumulating on top of the covered box should not be allowed to press the paper down to touch the rice surface. During the rainy season, protect the box by covering the layer of fallen leaves with a plastic sheet. Leave out for two to 10 days depending on the temperature (two days in hotter climates and 10 days in colder ones). When collecting IMO from the forest, results are better when there is adequate soil moisture, such as during the rainy season.

When you retrieve the rice from the forest, you should see a white mold growing on it. This harvested IMO 1 material (including the old rice) can be mixed with molasses (at a 1:1 rate) and fermented in clay crocks for at least one month. The resulting fermented IMO material can be used to make various IMO solutions and products. For instance, the fermented IMO product can be diluted in water (0.1-0.2%) and sprayed onto transplanted seedlings to help them with their establishment.

Another IMO 1 product is called IMO soil. It is produced by first mixing the fermented material with water and then applying the solution to new batches of compost. The solution helps to increase microbial activity in compost piles, thereby shortening the composting period. The finished IMO 1 compost can then be applied as a culture to activate a larger batch of IMO soil. Such IMO soil is recommended for application to areas that were previously farmed with chemicals but still have soil organic matter rates higher than 4%. The amendment will help restore microbial balance and improve soil structure.

In addition to a similar method of producing IMO 1 from around the stubble of harvested rice fields (method 2), Dr. Arnat's book contains a slightly different method for collecting IMO from leaf mold (the third method of producing IMO 1). From the forest, collect leaf molds that contain white hypha. Deciduous trees have more microorganisms than evergreen forests. Mix up a solution of FPJ (fermented plant juice; see later in this document for details) diluted 1000 times in water, and boil. Allow to cool and then add enough steamed rice to create a porridge-like consistency. Mix the rice mixture with four to five cups of leaves covered with white mold and allow to sit for one night. Mix this compound into rice bran to propagate more microbes. Mix with enough rice bran to obtain a mixture with approximately 65 to 70 percent moisture (i.e. if a handful of material is squeezed tightly, little if any water will drip out, but the material will remain in a clump after squeezing). Heap the moist rice bran mixture to a height of 30 to 40 cm. Add FPJ (fermented plant juice) and/or FAA (fish amino acid) to promote microbial activity. Cover the rice bran pile with rice straw to incubate IMO growth and conserve moisture. Keep covered in this state for five to seven days. Afterward, store in a shady area outdoors or indoors. Similar to IMO soil, this IMO product can be broadcast onto soil that is otherwise good (having organic matter levels higher than four percent) but that has been exposed to a lot of agricultural chemicals, in order to increase the population of microbes in the soil. It can be added to compost as well.

